

***Amendments to the Claims***

The listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A vibration isolation system for at least partially damping and isolating vibrations of a body, the system comprising:

a plurality of sensors mechanically coupled to the body configured to detect vibrations of the body;

a plurality of active isolator devices mechanically coupled to the body; and

a control system configured to control the active isolator devices, wherein the control system is configured to:

~~decouple~~ transform vibrations ~~in modal directions;~~ measured in a first coordinate system of the plurality of sensors into vibrations in modal directions, that comprise a second coordinate system, corresponding to the natural modes or eigenmodes of the body,

wherein the natural modes or eigenmodes of the body depend on physical characteristics of the body and the body's coupling to an environment;

determine a modal compensation signal for each modal direction;

~~recouple~~ transform each modal compensation signal into an active isolator control signal in the first coordinate system for each active isolator device; and

stabilize at least one unstable natural mode of the body.

2.     *(Currently Amended)* The ~~vibration isolation~~ system ~~according to~~ of claim 1, wherein the at least one unstable natural mode stabilized by the control system is directed substantially vertically.
3.     *(Currently Amended)* The ~~vibration isolation~~ system ~~according to~~ of claim 1, wherein the body is positioned on a base frame by air mounts.
4.     *(Currently Amended)* The ~~vibration isolation~~ system ~~according to~~ of claim 1, wherein a passive isolator device and an active isolator device engage the body at the same location on the body.
- 5-20.   *(Canceled)*
21.     *(Withdrawn)* A lithographic apparatus, comprising:
  - an illumination system configured to provide a beam of radiation;
  - a support configured to support a patterning device, the patterning device configured to impart the beam with a pattern in its cross-section;
  - a substrate table configured to hold a substrate;
  - a projection system configured to project the patterned beam onto a target portion of the substrate; and
  - a vibration isolation system for at least partially damping and isolating vibrations of the projection system, the system comprising:

a plurality of active isolator devices mechanically coupled to the  
projection system and

a control system configured to control the active isolator devices,

wherein the control system is configured to:

decouple vibrations in modal directions;

determine a modal compensation signal for each modal  
direction;

recouple each modal compensation signal into an active  
isolator control signal for each active isolator  
device; and

stabilize at least one unstable natural mode of the body.

22. (*Withdrawn*) An apparatus according to claim 21, wherein the at least one unstable natural mode stabilized by the control system is directed substantially vertically.

23. (*Withdrawn*) An apparatus according to claim 21, wherein the projection system is positioned on a base frame by air mounts.

24. (*Withdrawn*) An apparatus according to claim 21, wherein a passive isolator device and an active isolator device engage the projection system at the same location on the projection system.

25. (*Canceled*)